

Claims

The claims defining the invention are as follows:

1. An inoculation device comprising a body having a fixed portion and a moveable portion, said fixed portion having a front face, the moveable portion supported from the fixed portion rearward of the front face, a needle supported from the movable portion to be moveable longitudinally on relative movement of the movable portion with respect to the fixed portion, towards and away from the front face whereby the free end of the needle is caused to undergo a longitudinal movement between a retracted position at which the free end of the needle lies to the rear of the front face and an extended position at which the free end of the needle extends in front of the front face, said movable portion being biased to the retracted position, an indexing means provided between the moveable portion and the fixed portion to cause an indexing lateral movement of the needle in a direction transverse to the longitudinal movement through a plurality of stations in association with the longitudinal movement of the needle wherein on each longitudinal movement the needle is located at a separate station.
2. An inoculation device as claimed at claim 1 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle is undergoing its longitudinal movement.
3. An inoculation means as claimed at claim 2 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle from its retracted position to its extended position.
4. An inoculation means as claimed at claim 2 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle from its extended position to its retracted position.
5. An inoculation means as claimed at claim 2 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle

from its retracted position to its extended position and from its extended position to its retracted position.

6. An inoculation device as claimed at claim 1 or 2 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle prior to the needle undergoing its longitudinal movement.

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7. An inoculation device as claimed at claim 1 or 2 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle subsequent to the needle undergoing its longitudinal movement.

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8. An inoculation means as claimed at any one of the preceding claims wherein the front face is open.

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9. An inoculation means as claimed at any one of claims 1 to 7 wherein the front face is closed and is provided with an aperture which defines a path for the lateral movement of the needle and through which the needle extends when in its extended position, said stations being located along said path.

10. An inoculation means as claimed at claim 9 wherein the indexing means causes the needle to move to a final station located beyond the path on completion of passage of the needle along the path.

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11. An inoculation means as claimed at claim 9 or 10 wherein the needle occupies an initial position prior to undergoing any longitudinal movement at which the needle is retracted and the needle is out of longitudinal alignment with the path and on the initial movement of the needle it moves to an initial station and into longitudinal alignment with the path.

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12. An inoculation device comprising a body having a fixed portion and a moveable portion, said fixed portion comprising a substantially cylindrical body having a front face, the moveable portion being slidably and rotatably within the body, a needle supported from the movable portion to be

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moveable longitudinally on relative movement of the movable portion with respect to the fixed portion, towards and away from the front face whereby the free end of the needle is caused to undergo a longitudinal movement between a retracted position at which the free end of the needle lies 5 rearward of the front face and an extended position at which the free end of the needle extends forward of the front face, said movable portion being biased to the retracted position, the needle being supported such that its central axis is offset from the axis of rotation of the movable portion within the fixed portion an indexing means provided between the moveable 10 portion and the fixed portion to cause an indexing lateral movement of the needle in a direction transverse to the longitudinal movement about the axis of rotation, in association with the longitudinal movement of the needle wherein on each longitudinal movement the needle is located at a separate station.

15 13. An inoculation means as claimed claim 12 wherein the movable portion is capable of rotational movement in one direction about the axis of rotation.

14. An inoculation means as claimed at claim 12 or 13 wherein the front face is open.

20 15. An inoculation means as claimed claim 12 or 13 wherein the front face is closed and is provided with a an at least partially annular aperture which defines a path for the lateral movement of the needle and through which the needle extends when in its extended position, said stations being located along said path..

25 16. An inoculation means as claimed claim 15 wherein the aperture is part annular.

17. An inoculation means as claimed at claim 16 wherein the indexing means causes the needle to move to a final station is located beyond the path on completion of passage of the needle along the path.

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18. An inoculation means as claimed at claim 16 or 17 wherein the needle occupies an initial position prior to undergoing any longitudinal movement at which the needle is retracted and the needle is out of longitudinal alignment with the path and on the initial movement of the needle it moves to an initial station and into longitudinal alignment with the path.

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19. An inoculation device as claimed at any one of claims 12 to 18 wherein the indexing means is adapted to cause the lateral movement whilst the needle is undergoing its longitudinal movement.

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20. An inoculation means as claimed at any one of claims 12 to 19 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle from its retracted position to its extended position.

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21. An inoculation means as claimed at any one of claims 12 to 19 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle from its extended position to its retracted position.

22. An inoculation means as claimed at any one of claims 12 to 19 wherein the indexing means is adapted to cause the lateral movement during the movement of the needle from its retracted position to its extended position and from its extended position to its retracted position.

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23. An inoculation device as claimed at any one of claims 12 to 18 wherein the indexing means is adapted to cause the lateral movement prior to the needle undergoing its longitudinal movement.

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24. An inoculation device as claimed at any one of claims 12 to 18 wherein the indexing means is adapted to cause the lateral movement subsequent to the needle undergoing its longitudinal movement.

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25. An inoculation means substantially as herein described.